

WHAT IS CLAIMED IS:

1. A dispensing tip positioning and storing apparatus comprising:

5 a tip distributor that distributes a plurality of dispensing tips, which are carried in and are to be positioned and stored, to a plurality of processing lines;

drum mechanisms provided in the processing lines, respectively, the drum mechanisms agitating the
10 dispensing tips distributed by the tip distributor using an agitation bar that rotates about a horizontal axis and discharging the dispensing tips while postures of the dispensing tips are almost aligned with the horizontal axis;

15 tip direction aligning mechanisms that align the dispensing tips, which are discharged from the drum mechanisms, in such a manner that distal ends of the dispensing tips point downward;

a conveying mechanism that sequentially conveys
20 the dispensing tips whose directions are aligned by the tip direction aligning mechanisms, to a given position by a common conveying lane; and

a tip inserting mechanism that inserts the dispensing tips, which are sequentially conveyed to the
25 given position by the conveying mechanism, into a tip holding rack in a predetermined manner.

2. The dispensing tip positioning and storing

apparatus according to claim 1, wherein the drum mechanisms are provided under the tip distributor.

3. The dispensing tip positioning and storing apparatus according to claim 1, wherein each of the
5 drum mechanisms includes a plurality of drums which are connected to each other from an upstream side to a downstream side, and the drums agitate the dispensing tips supplied from above, align the postures of the dispensing tips in substantially a horizontal
10 direction, and discharge the dispensing tips downward.

4. The dispensing tip positioning and storing apparatus according to claim 2, wherein each of the drum mechanisms includes a plurality of drums which are connected to each other from an upstream side to
15 a downstream side, and the drums agitate the dispensing tips supplied from above, align the postures of the dispensing tips in substantially a horizontal direction, and discharge the dispensing tips downward.

5. The dispensing tip positioning and storing apparatus according to claim 3, wherein each of the
20 drum mechanisms includes at least one drum having a function of further distributing the dispensing tips, which flow through a processing line of the drum mechanism, to a plurality of processing lines.

25 6. The dispensing tip positioning and storing apparatus according to claim 4, wherein each of the drum mechanisms includes at least one drum having

a function of further distributing the dispensing tips, which flow through a processing line of the drum mechanism, to a plurality of processing lines.

5 7. The dispensing tip positioning and storing apparatus according to claim 1, wherein each of the tip direction aligning mechanisms includes:

 a gutter-shaped tip receiving member that is inclined under a tip outlet of each of the drum mechanisms; and

10 a tip direction aligning lane provided under the tip receiving member and having a slit formed along a centerline of a band-shaped member, the slit having a width as to prevent only a head portion of each of the dispensing tips from passing through the slit.

15 8. The dispensing tip positioning and storing apparatus according to claim 1, wherein the tip inserting mechanism is a tip shooter that shoots the dispensing tips with distal ends of the dispensing tips downward, which are sequentially conveyed to the
20 given position by the conveying mechanism, into the tip inserting holes of the tip holding rack.